

Appl. No. : 903,999
Filed : July 12, 2001

specification. Applicant respectfully requests entry of the amendments and reconsideration of the application in view of the amendments and the following remarks.

Information Disclosure Statement

The Examiner asserts that the information disclosure statement filed February 19, 2002, fails to comply with the provisions of 37 CFR 1.97, 1.98, and MPEP § 609 because there isn't any English translation provided for SU 1,640,542. A copy of the English translation for the abstract of SU 1,640,542 has been submitted to the USPTO accompanying this Amendment. Applicant respectfully requests that the information be considered.

Claim Objections

Claim 11 has been objected to because the dependency is not proper. Claim 11 has been amended to depend on Claim 8, rather than Claim 1, thereby obviating this objection. Applicant respectfully requests withdrawal of this objection.

Rejection of Claim 7 Under 35 U.S.C. § 102

Claim 7 has been rejected under 35 U.S.C. 102(b) as being anticipated by Martin (US 5,712,704). Claim 7 as clarified herein could not be anticipated by Martin as explained below.

In Martin, the light beam 20 is emitted from the source 1, and introduced into the interferometer 5 via the optical fiber 2. In the interferometer 5, the light beam 20 is split into two light beams 23 and 24 at the separator 12, and the light beam 23 is shifted in phase by π at the birefringence plate 17 in forward propagation and backward propagation. The light beams 23 and 24 are combined at the separator 12 to produce interference, which is detected at the detector 3. In this way, the polarization mode dispersion of the optical fiber 2 is measured.

Claim 7 recites: a method for analyzing anisotropy of a sample comprising the steps of: i) preparing a single polarized light beam, ii) introducing the single polarized light beam into a sample to be measured in anisotropy, iii) dividing the single polarized light beam into two light beams, after passing through the sample, iv) superimposing the two divided light beams, and v) observing an interference pattern of the thus obtained superimposed light beam to analyze anisotropy of the sample.

That is, Claim 7 is directed to a method for analyzing anisotropy of a sample, wherein it is required that the single polarized light beam be introduced into a sample to measure the sample's anisotropy. In contrast, Martin is directed to measuring the polarization mode dispersion of a waveguide, wherein neither a sample to be analyzed in anisotropy is prepared, nor the light beam is introduced into the sample. The optical fiber 2 in Martin is a waveguide, not a sample to be analyzed in anisotropy. The present invention and Martin are technologically dissimilar to each other, and therefore, the invention recited in Claim 7 could not be anticipated by Martin. Withdrawal of the rejection under 35 U.S.C. 102(b) is respectfully requested.

Rejection of Claims 1-6 and 8-15 Under 35 U.S.C. § 103

Claims 1-6 and 8-15 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Gutierrez (US 5,706,084) and in view of Yeh (EPO 209,721). The claims as clarified herein patentably distinguish over the references. Claims 1 and 8 are independent and the remaining claims are ultimately dependent on either one of Claim 1 or 8. Claim 1 recites a method for analyzing anisotropy of a sample and Claim 8 recites an apparatus for analyzing anisotropy of a sample.

Gutierrez discloses that the laser source 22, the polarizer, the birefringent medium 28 and the analyzer 32 are disposed in the optical path. Yeh discloses that the laser resonator 10, the beam splitter 24 and the half-wave plate 30 are disposed in the optical path.

However, Gutierrez is directed to an interferometer, wherein neither a sample to be analyzed in anisotropy is prepared, nor the light beam is introduced into the sample. Therefore, Gutierrez does not teach or suggest a position of the sample to be disposed in the optical system. Moreover, Yeh is directed to a laser sensor, wherein neither a sample to be analyzed in anisotropy is prepared in the optical system, nor the light beam is introduced into the sample. Gutierrez and Yeh are irrelevant to the present invention. Thus, a combination of Gutierrez and Yeh could not lead to the present invention, and Claims 1 and 8 and the dependent claims could not be obvious over the prior art. Applicant respectfully requests withdrawal of this rejection.

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CONCLUSION

In light of the Applicant's foregoing Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: April 14, 2003

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 1-15 have been amended as follows:

1. (Amended) ~~An~~A method for analyzing anisotropy ~~analyzing method of a sample~~ comprising the steps of:
preparing two light beams having the same wavelength of which the plane of polarization are crossed at a given angle,
introducing the two light beams into a sample to be measured in anisotropy at the same time,
rotating the plane of polarization of one of the two light beams by the given angle so as to correspond to that of the other of the two light beams, after passing the two light beams through the sample,
superimposing the two light beams, and
observing an interference pattern of the thus obtained superimposed light beam to analyze anisotropy of the sample.
2. (Amended) ~~An anisotropy analyzing~~The method as defined in claim 1, wherein the given angle is 90 degrees.
3. (Amended) ~~An anisotropy analyzing~~The method as defined in claim 1, comprising the step of superimposing the two light beams before introducing into the sample, whereby the thus obtained superimposed light beam is introduced into the sample.
4. (Amended) ~~An anisotropy analyzing~~The method as defined in claim 3, wherein the given angle is 90 degrees.
5. (Amended) ~~An anisotropy analyzing~~The method as defined in claim 1, wherein the two light beams are introduced into the sample so that their beam directions are crossed.
6. (Amended) ~~An anisotropy analyzing~~The method as defined in claim 5, wherein the given angle is 90 degrees.
7. (Amended) ~~An~~A method for analyzing anisotropy ~~analyzing method of a sample~~ comprising the steps of:
preparing a single polarized light beam,
introducing the single polarized light beam into a sample to be measured in anisotropy,

dividing the single polarized light beam into two light beams, after passing through the sample,

superimposing the two divided light beams, and

observing an interference pattern of the thus obtained superimposed light beam to analyze anisotropy of the sample.

8. (Amended) An apparatus for analyzing anisotropy ~~analyzing apparatus of a sample~~ comprising:

,before a sample to be measured in anisotropy,

a laser source to generate and oscillate a light beam to be used in anisotropy analysis,

a light beam-dividing means to divide a light beam from the laser source into two light beams, and

a first plane of polarization-rotating means to rotate the plane of polarization of one of the thus obtained two divided light beams by a given angle,

,after the sample to be measured in anisotropy,

a second plane of polarization-rotating means to rotate the plane of polarization of the one or the other of the two divided light beams by the given angle so that their planes of polarization can correspond each other,

a light beam-superimposing means to superimpose the two divided light beams, and

a light beam-projecting means to project and observe an interference pattern of the thus obtained superimposed light beam.

9. (Amended) ~~An anisotropy analyzing means~~ The apparatus as defined in claim 8, wherein at least one of the first and the second plane of polarization-rotating means is composed of a half-wave plate.

10. (Amended) ~~An anisotropy analyzing means~~ The apparatus as defined in claim 8, wherein at least one of the light beam-dividing means and the light beam-superimposing means is composed of a half mirror.

11. (Amended) ~~An anisotropy analyzing~~ The apparatus as defined in claim 8, further comprising:

,before the sample to be measured in anisotropy, another light beam-superimposing means to superimpose the two divided light beams after the first plane of polarization-rotating means

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,after the sample to be measured in anisotropy, a light beam-splitting means to split the superimposed light beam before the second plane of polarization-rotating means.

12. (Amended) ~~An anisotropy analyzing means~~The apparatus as defined in claim 11, wherein at least one of the first and the second plane of polarization-rotating means is composed of a half-wave plate.

13. (Amended) ~~An anisotropy analyzing means~~The apparatus as defined in claim 11, wherein at least one of the light beam-dividing means and the light beam-superimposing means is composed of a half mirror.

14. (Amended) ~~An anisotropy analyzing means~~The apparatus as defined in claim 11, wherein the another light beam-superimposing means is composed of a half mirror.

15. (Amended) ~~An anisotropy analyzing means~~The apparatus as defined in claim 11, wherein the light beam-splitting means is composed of a polarized light beam splitter.

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